



The choice between business travel and video conferencing after COVID-19 – Insights from a choice experiment among frequent travelers

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ARTICLE INFO

Keywords:

Business travel decision-making
Business traveler behavior
Face-to-face communication
Videoconferencing
COVID-19
Adaptive choice-based conjoint analysis (ACBC)

ABSTRACT

COVID-19 has accelerated the substitution of videoconferencing for business travel. However, little research exists about the decision-making behavior of business travelers considering virtual alternatives. We fill this gap by reconceptualizing the decision-making process and investigating the fundamental choice between face-to-face (FtF) and virtual communication (VC) using an adaptive choice-based conjoint analysis. We argue that the process of decision making of business travelers is distinct to that of leisure travelers, as the fundamental decision between FtF and VC occurs prior to subsequent travel decisions. We show that the purpose of the meeting, the character of the message, and the location of the meeting are the decision attributes of greatest importance. Using a novel methodology we present a holistic decision model that increases the theoretical understanding of business traveler decision-making and provide practitioners with comprehensive insights relevant to travel policy development, and executives in the business travel market with guidance with management decisions.

1. Introduction

Business travel is an important driver of global transportation and tourism. In 2019, global spending on the latter amounted to USD 1.28tn, accounting for around 21% of the total sector (Jus, Poole, & Misrahi, 2020). Business travelers are particularly important for the aviation industry. While they account for only around 13% of passengers, they are responsible for up to 75% of profits (“Business Travel by the Numbers,” 2021; UNWTO, 2019). The globalization of markets and supply chains, multinational organizational structures, and international partnerships led to growing demand pre-COVID-19 (Aguilera, 2014; Davidson & Cope, 2003; Swarbrooke & Horner, 2001). However, the need to physically travel for business is increasingly being challenged, a development best illustrated by a quote from Bill Gates, who has predicted “that over 50% of business travel [...] will go away” (Higgins-Dunn, 2020).

New trends in the workplace highlight the stress associated with business travel (Cohen, Hanna, & Gössling, 2018; Defrank, Konopaske, & Ivancevich, 2000; Gustafson, 2014), while critique of the emissions associated with hypermobile lifestyles is increasing as part of the global climate debate (Gössling, Hanna, Higham, Cohen, & Hopkins, 2019; Poom, Orru, & Ahas, 2017; Roby, 2014), and the COVID-19 pandemic

has forced companies around the globe to radically rethink international connectivity and travel behavior and rely much more on virtual means of communication due to travel restrictions and health concerns (Becken & Hughey, 2021; Gössling, Scott, & Hall, 2020). Despite its economic relevance and the structural change processes that have been set in motion, business travel receives surprisingly little academic attention (Faulconbridge, Beaverstock, Derudder, & Witlox, 2009) and the decision-making behavior of business travelers – taking into account virtual alternatives – has been insufficiently explained in the literature. Following Zenker and Kock (2020), it is thus considered an absolute necessity, especially after the pandemic, to examine the nature of changes in this segment, and in particular, to address changes in traveler behavior. We seek to fill this gap by conceptualizing business traveler decision making through a novel approach by specifically addressing the choice between face-to-face and virtual business communication. This involves bringing together interdisciplinary literature streams in a conceptual model, and testing the latter in practice by employing a hierarchical Bayes model.

The substitution of travel and personal communication by technological alternatives has been the subject of research for almost two decades. The relationship between business travel and videoconferencing has, for example, been examined in the past in various disciplines

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(Denstadli, Gripsrud, Hjorthol, & Julsrud, 2013; Lu & Peeta, 2009; Poom et al., 2017). More generally, numerous theoretical contributions have analyzed the relationship between face-to-face (FtF) and virtual interaction, with a focus on the respective advantages and disadvantages (Arnfolk & Kogg, 2003; Asheim, Coenen, & Vang, 2007; Denstadli, Julsrud, & Hjorthol, 2012; Jones, 2007; Larsen, Urry, & Axhausen, 2008; Lyons, 2013; Roby, 2014; Storper & Venables, 2004). As previous research has looked at different attributes individually, it is not yet clear which variables are the most important, nor how important each attribute is compared to the others in terms of influencing decisions. Since such choices arguably always involve different attributes, an integrative decision-making model of videoconferencing and business travel is required to explain and ultimately influence this choice. It is noticeable, however, that no such holistic model of business travel and videoconferencing presently exists that combines insights from different streams and disciplines.

While much of the earlier research dates back several years, the debate is gaining new momentum in light of the current situation (Becken & Hughey, 2021). Due to the COVID-19 pandemic, the social and economic importance of business travel segments might decrease. Travel restrictions and cost constraints have led to a stark downturn in the sector and a rapid increase in the use of virtual means of communication (Curley, Garber, Krishnan, & Tellez, 2020; Guggenheim, Crouch, Molenaar, & Lardet-Maurin, 2021). Finally, with regard to the transportation sector's efforts to help achieve the Paris climate goals, critical discussion of air transport and climate governance may be timely (Gössling & Humpe, 2020). In summary, the current developments, therefore, raise the question how businesspeople decide between business trips and videoconferencing, and what this means for businesses, the tourism industry, society, and the environment. On this foundation, the research question examined in this paper is the following:

What determines the choice between business travel and video conferencing after COVID-19?

We examined this issue using a choice experiment in cooperation with a large international airline. Our sample consisted mostly of frequent business travelers from Switzerland, whose strong economy, high level of international connectivity, and one of the highest shares of foreign trade in GDP (Federal Statistical Office, 2021) lead to a proportionately very high volume of business travel (Beaverstock & Faulconbridge, 2010), making the country a particularly interesting case for the study of business travel. We found that although there are differences in the preferences of project and general managers, the purpose of the meeting, the character of the message, and the location of the meeting are the decision attributes of greatest importance in both groups. It is further shown that negotiations, complex and formal messages, as well as creative activities particularly require physical co-presence, while virtual communication is considered more appropriate for technical exchanges and informal and less complex messages, among others.

Our academic contribution is twofold: first, we delineate the decision-making behavior of business travelers from that of leisure travelers and conceptualize their decision-making situation in relation to virtual alternatives to travel. Second, we bring together individual findings from different literature streams for the first time in a holistic decision model and then test and rank the relevant factors using an adaptive choice-based conjoint analysis. Thereby, we generate a better – more realistic – holistic understanding of the choice between face-to-face and virtual meetings in different work contexts in the wake of the COVID-19 pandemic and shed light on a novel aspect of business travelers' consumer behavior that is insufficiently covered by existing theories. For practitioners, we show that a one-size-fits-all approach will no longer be sufficient for business travel marketing in the future. Rather, tourism providers need to address businesspeople situationally and specifically. For the management of business travel in organizations, we see the need for new travel policies that move from travel management to meeting management. Our results also indicate the opportunities for

cost and GHG reductions, as well as other benefits for organizations.

2. Literature review & hypotheses development

2.1. Theoretical approach to business travel decision-making

Tourism consumer behavior theory argues that business travelers fundamentally differ from leisure travelers. In the latter case, the traveler decides and pays (consumer = customer), while business travelers are embedded in a decision-making unit. Decisions are “usually the product of the combined (and sometimes conflicting) needs, wants and influences of a range of contributors” (Davidson & Cope, 2003). Hence, it is argued that sources of motivation are different for ‘customers’ and ‘consumers’ (Swarbrooke & Horner, 2001, 2007). Harris and Pressey (2021), however, have recently challenged this assumption of idiosyncrasy and argue that most travelers have a great deal of discretion in their travel choices. Consequentially, they encourage “more reflexive evaluation of traveler motivations” (p. 3). If their assumption is correct, the ‘grand models of decision making’ of tourism theory should be readily applicable to business travelers. However, our review of existing theoretical explanations indicates that none of them do justice to the decision-making situation between alternatives that business travelers face in the digital age.

Most consumer behavior theories implicitly or explicitly follow the stimulus-organism-response (S-O-R) approach. They assume that a stimulus (e.g. an advertising message) is processed in an individual organism (e.g. in the form of motivation, decision-making, or learning), which then leads to a response (e.g. changed consumer behavior) (Mehrabian & Russell, 1974). The ‘grand models,’ including those of Nicosia (1966), Howard and Sheth (1969), Kollat, Engel, and Blackwell (1970), and Middleton and Clarke (2001), try to explain consumer behavior entirely in terms of psychological and social processes and explicitly include the processes within the organism (Sirakaya & Woodside, 2005). The fundamental critique of these models is that they supposedly provide a comprehensive explanatory approach to decision-making, but in fact they fail at this. First, the models take an overly simplistic view, representing decisions as a linear input-output process. In reality, however, decisions are often non-linear, dynamic, illogical, and involve feedback loops (Jacoby, 2002; Smallman & Moore, 2010). We believe that digital opportunities further increase the complexity and non-linearity of business travelers' decision-making. Second, tourism decisions are service decisions. However, the grand models mainly refer to tangible products, which are subject to a slightly different logic (Laesser, Luo, & Beritelli, 2019).

Specifically related to business travelers, we would like to add two further points. We argue, third, that the virtual alternative to business travel that this paper addresses did not exist when most of the previous theories were developed. Hence, little is known about how business travelers decide between physical travel and virtual communication, and how this fits the S-O-R logic. The decision whether a meeting should be conducted FtF or virtually – the basis of which is primarily the need for communication and the exchange of information – is a decision that is located upstream of the decision to purchase a touristic service. We therefore argue against locating the decision between VC and FtF in the context of motivational processes or in terms of the evaluation of alternatives in the organism component of the S-O-R paradigm. Fourth, even though many business travelers have some decision-making autonomy, their decisions are, in our opinion, largely externally determined, be this in the form of direct instructions from a superior or due to the expectations of business partners, corporate strategy, or industry norms, among other reasons (Lassen, 2010a; 2010b; Wickham & Vecchi, 2010). Accordingly, we argue that conventional marketing stimuli are not sufficient to influence such decisions.

According to theory about the fundamental logic of decision-making, it is particularly worthwhile looking at cognitive and conative decision-making. Cognitive approaches (e.g., Scholl (1977) and Mathieson and

Wall (1982)) mainly involve the cost-benefit appraisal of different alternatives within a decision set based on different decision attributes. Among the conative decision models, we would like to highlight the influential theory of planned behavior (TPB), which attempts to explain behavior as the result of attitude, subjective norms, and perceived behavioral control (Ajzen, 1991). We refute the applicability of all these models in the same way as before: business travel is not primarily driven by marketing stimuli or the personal and social determinants of the traveler, but is largely externally influenced, thus violates the premise of perceived behavioral control.

In sum, we believe that the literature has not paid enough attention to business travelers and their behavior. The body of knowledge that exists about this phenomenon is mainly descriptive (e.g., Morrison, Ladig, and Hsieh (1994) Unger, Uriely, and Fuchs (2016) and Gustafson (2012a)) rather than explanatory, and consumer behavior theories are not readily applicable to the business traveler, especially due to the increase in digital alternatives to physical travel. We seek to fill this gap by first conceptualizing the broader decision-making situation of business travelers. Lacking a holistic conceptual decision-making model, we thereby draw on research from various disciplines which has separately examined different aspects that influence business travel behavior.

Arnfolk and Kogg (2003) state that “most organizations are strongly dependent upon their ability to communicate; internally as well as externally. Much of this communication takes place in the form of meetings” (p. 860). The source of business travelers’ behavior is thus always the need for business communication. We conceptualize the subsequent decision-making process as a multi-stage one (Fig. 1). Primarily, the fundamental decision concerns the communication medium – i.e., whether virtual or face-to-face communication is more suitable (Denstadli et al., 2012; Lyons, 2013). Subsequently, more concrete decisions about how to operationalize the selected option follow. Since business travelers’ decision processes are also non-linear and involve feedback loops (Jacoby, 2002; Smallman & Moore, 2010), it is worthwhile also taking a look at these subsequent decisions and their implications.

At the organizational level, the benefits of business travel are manifold: for example, it enables access to globalized markets, international supply chains or production sites, and international knowledge exchange and innovation (Gustafson, 2012a; Jones, 2013). The individual benefits of business travel may include, for example, the formation of social contacts and networks (Millar & Salt, 2007), fostering professional success (Lassen, 2010b), feelings of autonomy and freedom (Kesselring & Vogl, 2010), status and privilege (Becken & Hughey, 2021), motivation (Storper & Venables, 2004), and the further development of cultural leadership skills and global mindsets (Johnston, 2014).

However, company outlay primarily goes on travel-related costs such as tickets, accommodation, meals, etc. The overall economic situation and internal regulations thus have a considerable influence on the amount and form of business travel (Davidson & Cope, 2003; Gustafson, 2012a). For many travelers, business travel is associated with stress (Defrank et al., 2000; Gustafson, 2014; Ivancevich, Konopaske, & Defrank, 2003) as well as various health risks (Cohen & Gössling, 2015; Cohen & Kantenbacher, 2020; Ye & Xu, 2020, 2021) and family-related challenges caused by the traveler’s absence (Defrank et al., 2000; Ladkin, Willis, Jain, Clayton, & Marouda, 2016; Willis, Ladkin, Jain, & Clayton, 2017), resulting in considerable individual costs.

Ultimately, business travel also generates societal costs. Most notably, these include externalities that arise due to the use of carbon-intensive modes of transport such as aviation or cars (Aguilera, 2014; Barde & Button, 2013). Business travel is believed to be the second-largest contributor to companies’ GHG emissions after the operation of sites and real estate (Davies & Armsworth, 2010). More societal costs are also incurred through the use of infrastructure and health systems. Additionally, broader basic structural factors such as the availability of means of transportation, government travel restrictions, and organizations’ travel policies naturally influence travel decisions, especially considering the effect that COVID-19 has had on the sector.

Questions about the impact of the emergence of advanced virtual communication technologies on business travel have inevitably arisen.

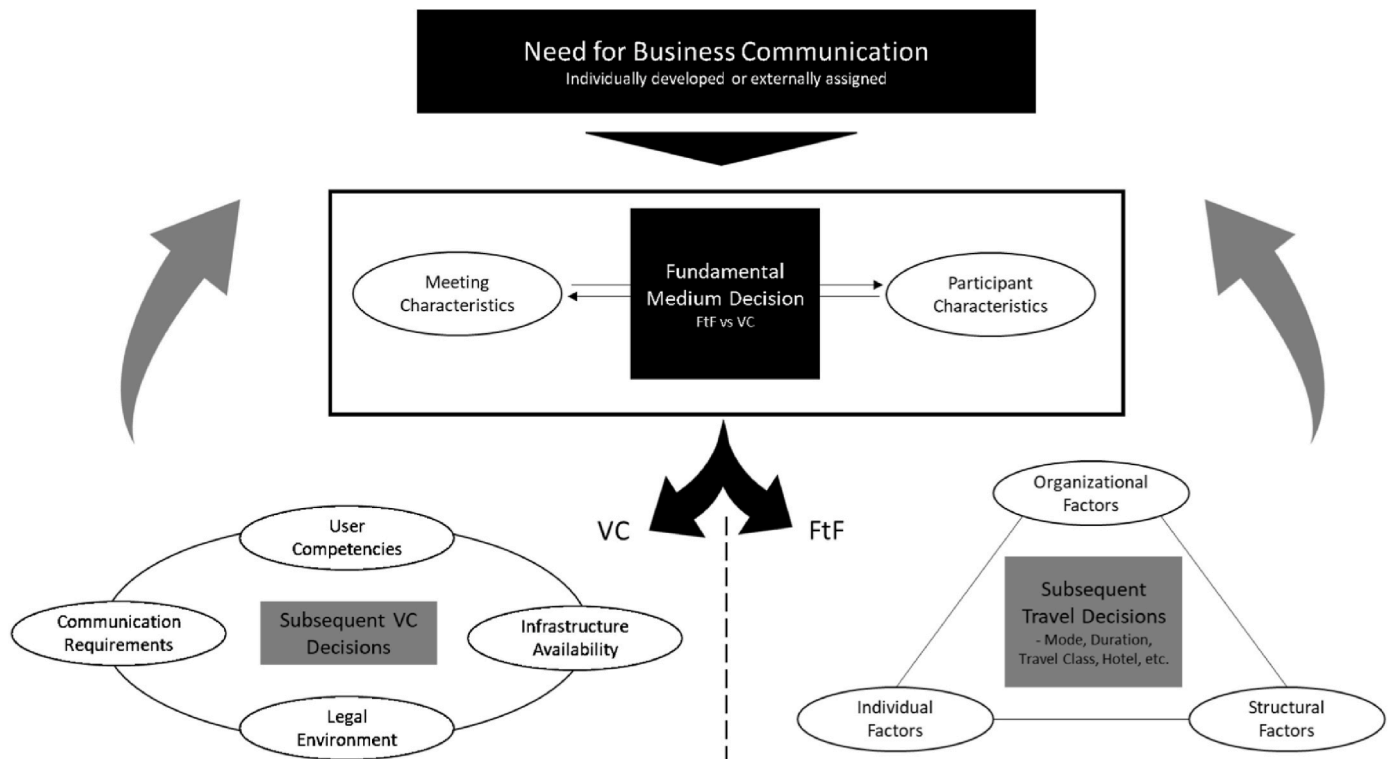


Fig. 1. Business travel vs videoconferencing decision-making framework (author’s construction).

The advantages of videoconferencing (VC) soon became obvious: time and cost saving through the substitution of travel and the opportunity for rapid decision making between spatially separated key actors (Roy & Filiatrault, 1998). Nevertheless, the use of VC is also constrained by factors such as communication requirements, user competencies, the legal environment, and infrastructure availability (Arnfolk & Kogg, 2003; Lindeblad, Voytenko, Mont, & Arnfolk, 2016; Urry, 2002).

Business travelers represent an extremely important segment of the global tourism economy – as the developments that occurred during the COVID-19 pandemic illustrated – thus contemporary engagement with the behavior of business travelers seems indispensable. In this paper, we aim to contribute to the latter goal by not only contextualizing the fundamental decision-making process between VC and FtF in the overall behavior of business travelers, but also by examining in detail which factors influence this decision.

2.2. Implications of COVID-19 for international business travel

The COVID-19 shock will possibly result in long-term and far-reaching individual and structural changes in the business travel sector. The pandemic has severely affected international air traffic since spring 2020. In 2020, global aviation capacity collapsed by 50% and for 2021 it was forecast to decline by up to 40% below pre-crisis levels (International Civil Aviation Organization [ICAO], 2021). Aviation is one of the sectors of the economy that has suffered most from the consequences of the pandemic, although it was probably also one of the initial drivers (Sun, Wandelt, & Zhang, 2020; Zhang, Zhang, & Wang, 2020). On the corporate side, demand for business travel has also plummeted. PricewaterhouseCoopers estimates that more than 90% of global companies have suspended all non-essential travel at least temporarily. Reasons for this include remote work policies and health concerns, cost-cutting, as well as canceled and postponed conferences and events. The remaining business travelers stay closer to home, take shorter trips, and more often choose to go by car when possible (Guggenheim et al., 2021).

Not being able to travel means companies have fewer physical business meetings. While at least some of this canceled travelling could not be replaced, virtual meetings were the logical alternative. As long as the pandemic continues, this situation is unlikely to change. The longer the pandemic lasts, the more pressing the question when the business travel sector will recover, and what this recovery will look like. McKinsey & Company points out that in the past business travel recovered more slowly from economic disruption than the leisure segment, and will take multiple years to bounce back this time. According to their estimates, the speed of recovery of global business travel will depend on proximity, industry, and reason for travel (Curley et al., 2020).

Once business travel becomes fully available again, customer needs will likely continue to change. It is conceivable, for example, that companies will try to reduce their travel costs. For business travelers, this could mean either substituting trips with virtual alternatives altogether or combining more appointments into one trip. It is also possible that COVID-19 could change or eliminate some practices and established behaviors. Becken and Hughey (2021) conclude that even if there is “a desire for co-presence for particular meetings” (p. 14) among business travelers, the combination of the COVID-19 shock, climate change, and economic pressure may lead to “significant individual and structural changes” (p. 16) concerning business travel practices. This conclusion makes it reasonable to resume that the scientific discourse about the relationship between business travel and virtual communication should take into account the new underlying conditions after COVID-19.

2.3. The choice between business travel and videoconferencing

Even in an increasingly digital world, the need for personal contact is not likely to disappear. Based on the literature, we identify and group

meeting characteristics (*content, relationship, general circumstances*), as well as participant characteristics (*experience and norms and attitudes*) as major determinants of the decision to opt for face-to-face meetings or videoconferencing. Within the categories we identified seven attributes and created specific hypotheses for each attribute (Table 2). To measure the effects of these hypotheses in our ACBC experiment we added specific sub-constructs as sub-hypotheses, as we explain in detail later (Section 3.2), together with a presentation of the conceptual model (Fig. 5).

Early research found only a limited substitution effect between VC and business travel (Denstadli, 2004; Lu & Peeta, 2009; Roy & Filiatrault, 1998), while later research suggested that the two options were ‘mobility allies,’ involving four different characteristics (substitution, complementarity, modification, and neutrality) (Haynes, 2010). The interesting finding also emerged that people who often travel by air tend to participate in many VC events, indicating that VC and face-to-face communication (FtF) are neither simple substitutes nor independent communication methods (Denstadli et al., 2013). This indicates the need to look in more detail at the circumstances which influence individuals’ choices between VC and FtF. Based on earlier interdisciplinary research, these can be fundamentally grouped into **meeting characteristics** and **participant characteristics**.

In the case of **meeting characteristics**, the first factor to be considered is what we subsume under the category *content* of a meeting, which is liable to influence the choice of the communication channel. Lu and Peeta (2009) and Denstadli et al. (2012) suggest that the *purpose of the meeting* determines the choice of media. More specifically, Lian and Denstadli (2004) and Aguilera (2008) refer to the *character of the message to be communicated* as a relevant determinant. This is in line with the findings of Urry (2003) that complex messages are preferably communicated in person. Both the task complexity and information to be communicated have also received much attention as influencing factors. Theoretically, scholars have frequently used media richness theory (Daft & Lengel, 1986; Trevino, Lengel, & Daft, 1987) to investigate how the character of the information to be transmitted influences the choice of communication channel. The key finding is that complex messages demand rich media such as FtF (Arnfolk & Kogg, 2003; Kock, 2005; McGrath & Hollingshead, 1994); a claim that accords with the conclusions of Boden and Molotch (1994; cited by Urry (2002)) that “co-present interaction is fundamental to social intercourse” (p. 259), mainly because FtF communication allows for what the latter author calls “thick co-presence” (p. 259), consisting of rich multi-layered and dense conversations involving body language, history, and status, among other elements.

Content

H1. Information with high complexity (vs. low complexity) is increasing the choice for FtF communication.

H1.1. Negotiations preferably take place face-to-face. (Pre-Study)

H1.2. Human resources matters are preferably discussed face-to-face. (Pre-Study)

H1.3. Strategy development is preferably done face-to-face. (Pre-Study)

H1.4. Informal messages are preferably communicated face-to-face. (Denstadli et al., 2012; Denstadli & Gripsrud, 2010)

A second much-discussed influencing factor is what we summarize under the term *relationship* of the people involved. The formal *relationship between participants* is discussed by Beaverstock, Derudder, Faulconbridge, and Witlox (2009) and divided into intra-firm, inter-firm and external stakeholders. Jones (2007) also distinguishes between intra- and inter-firm mobility in his attempt to theorize mobility in service industries. Similar distinctions can be found in Lu and Peeta (2009) and Haynes (2010), who find a substitution relationship between business travel and VC for intra-firm communication. Other researchers

have stressed the importance of FtF meetings for building and maintaining personal relationships, trust, and network capital (Aguilera, 2008; Bathelt & Turi, 2011; Growe, 2019; Gustafson, 2012a; Han, Hiltz, Fjermestad, & Wang, 2011; Köhler, Cramton, & Hinds, 2012; Mok, Wellman, & Carrasco, 2010). The degree of mutual trust in the personal relationship lifecycle, i.e., the *duration of the relationship* between individuals therefore also influences the choice of medium. It is especially the first meeting in a new relationship when people do not know each other that is preferably conducted FtF, indicating the role of the *regularity* of meetings as an influencing factor (Denstadli et al., 2012; Lian & Denstadli, 2004).

Relationship

H2. The more developed a business relationship is between meeting participants, the more likely it is that meetings will be conducted virtually.

H2.1. Internal meetings tend to be conducted virtually more often than meetings with external stakeholders. (Faulconbridge et al., 2009; Haynes, 2010; Lu & Peeta, 2009)

H2.2. Regular and recurring meetings are more often conducted virtually than one-off events (Denstadli et al., 2012; Lian & Denstadli, 2004)

H2.3. The longer a business relationship has existed and been able to build trust, the more likely it is that meetings will be held virtually. (Bathelt & Turi, 2011; Growe, 2019; Han et al., 2011)

The third category we identify is what we summarize as the *general circumstances* of the meeting, which includes the size of the meeting and its geographical location. Findings from Gustafson (2012a) and Storme, Faulconbridge, Beaverstock, Derudder, and Witlox (2017) indicate that the *number of participants* in a meeting is a relevant factor when choosing the channel. While meetings with larger numbers of participants allow for building networks and alliances (Haynes, 2010; Lian & Denstadli, 2004), more people having to travel results in greater expense in terms of time and money (Gustafson, 2012a). The *location of the meeting* also plays a role. Apart from the distance, which determines the amount of time and money required, cultural factors are of particular interest. For example, Köhler et al. (2012) found that Americans place more value on informal aspects, while Germans place more value on formalities. Strengers (2015) found that FtF meetings are preferred in cultures in which FtF communication is associated with demonstrating respect.

General Circumstances

H3. The size and location of the meeting positively influence the choice of FtF communication.

H3.1. Large meetings (vs. small) increase the choice of FtF communication. (Gustafson, 2012a; Storme et al., 2017)

H3.2. Depending on the location of the meeting, the choice of FtF increases. (Köhler et al., 2012; Strengers, 2015)

When it comes to **participant characteristics**, previous research highlights two main factors. The stream of social *norms and attitudes* looks at the topic from a different perspective, using the social influence model (Fulk, Schmitz, & Steinfield, 1990) to argue that the choice of the communication channel not only depends on the characteristics of the message but also previous *experience* and the social influence of the environment (Haddon & Silverstone, 2000).

Hence, we expect participants' personal *experiences* to influence decision-making. Based on specific channel expansion theory, which describes how the bandwidth of use of a medium (i.e. the number of potential applications) expands over time as people learn to use it better (Carlson & Zmud, 1999), we may assume that the externally induced increase in the use of virtual communication in 2020 has led to more substitution of business travel. However, Denstadli et al. (2013)

conclude that the relationship between VC and business travel is positive; i.e. that "people who travel a lot by air tend to participate in many video meetings" (p. 1), confirming the views of Kesselring and Vogl (2010), who propose that virtual activities stimulate real activities. VC may enable users to build and maintain larger networks (Haynes, 2010), hence also increase the necessity of travel while at the same time facilitating being away by enabling connections to home while on the road (Ladkin et al., 2016; Willis et al., 2017).

Experience

H4. Experience using VC can both increase (via size of professional network) and decrease (via learning effects) the choice of FtF communication.

H4.1. There is a positive relationship between the number of VC meetings and the number of FtF meetings ("the more virtual, the more real"). (Denstadli et al., 2013; Kesselring & Vogl, 2010)

H4.2. People who have participated in VC more often in the past have a lower tendency to choose FtF meetings. (Pre-study)

The use of VC in a business context is further determined by *norms and attitudes*. In the context of business travel, *social norms* include industry norms and professional norms. First of all, these refer to the respective industry norms, including their environment (Denstadli et al., 2012; Jones, 2007; Storper & Venables, 2004) and the virtual maturity of the respective organizations (Lindeblad et al., 2016). It is especially knowledge-intensive business services (KIBS) such as management consulting, IT, R&D, legal services, and advertising, for example, that have been found to rely strongly on FtF encounters (Growe, 2019). The second factor is the professional norms determined by the job and its hierarchical position. Certain job profiles related to knowledge practices, control, and innovation, as well as the status signaling that comes with them, are associated with more frequent business travel (Becken & Hughey, 2021; Jones, 2007; Unger et al., 2016; Wickham & Vecchi, 2009, 2010). Third are the *personal attitudes* and preferences of the traveler, which can be strongly individual and variable (Gustafson, 2012b, 2014; Kesselring & Vogl, 2010; Lassen, 2010a; 2010b).

Norms & Attitudes

H5. Social norms positively influence the choice of FtF communication.

H5.1. Knowledge-intensive industries (KIBS) have a stronger preference for FtF meetings compared to other industries. (Growe, 2019; Haynes, 2010)

H5.2. Participants assigned to the management quota have a stronger preference for FtF meetings than participants assigned to the project group. (Becken & Hughey, 2021; Unger et al., 2016; Wickham & Vecchi, 2009, 2010)

H5.3. Participants in a management role have a stronger preference for FtF meetings than participants without a management role, irrespective of the quota they are assigned to. (Becken & Hughey, 2021; Unger et al., 2016; Wickham & Vecchi, 2009, 2010)

H6. Personal attitudes can both increase (via attitude towards FtF) and decrease (via attitude towards VC) the choice of FtF communication.

H6.1. The more positive the attitude towards business travel, the stronger the preference for FtF meetings. (Gustafson, 2012b, 2014; Lassen, 2010a; 2010b)

H6.2. The more positive the attitude towards VC, the smaller the probability of choosing FtF. (Pre-study)

3. Methodology

3.1. Choice of methodological approach

Mansfeld (1992) pointed out as long as two decades ago that, through the study of actual choices, researchers can learn a great deal about why people travel. Nevertheless, choice experiments are still the exception in tourism literature. This study aims to determine the meeting preferences and thus implicitly the inclination to business travel of businesspeople. For learning about respondents' preferences for meetings with different combinations of attributes, the study uses an adaptive choice-based conjoint analysis (ACBC) conducted with Sawtooth's Lighthouse Studio software. While this novel method has been used in other fields such as the energy sector for an extended period of time, it has only in recent years found its way into tourism research (e.g., Hinnen, Hille, and Wittmer (2017) and Feilhauer, Schnitzer, Walde, and Tappeiner (2022)).

Choice experiments are based on utility theory, which assumes that the total utility of a product, a trip, or, in our case, a meeting, consists of several part-worth utilities that are linked to the individual attributes of the meeting (Ben-Akiva, McFadden, & Train, 2019). Choice-based conjoint analyses are employed to indirectly determine preferences by simulating choice decisions between alternatives (Louviere, Hensher, Swait, & Adamowicz, 2010). It is then possible to determine the utility contribution of the attribute values or, in other words, the importance of the attributes in preference formation (Backhaus, Erichson, Plinke, & Weiber, 2018).

Choice-based conjoint analyses are associated with several benefits: Choice tasks are usually easy for respondents as the presented choice situations closely represent reality. In addition, multinomial logit analysis is a well-developed statistical model for estimating respondents' part-worths based on the choice data. As choice tasks are less informative than tasks that involve rating/ranking, they generally require larger sample sizes than regular conjoint analyses. One big advantage, however, is that ACBC allows for multinomial logit analysis at the individual level (Howell, 2009; Johnson, 2000), while (theoretically) also permitting working with tiny samples (Brand & Baier, 2020; Chapman, Alford, Johnson, Weidemann, & Lahav, 2009). HB regression is particularly suitable for the analysis of small data sets, such as those that were generated from our survey, compared to other regression tools such as monotone regression (Brand & Baier, 2020). It gathers more information at the individual level and thus the part-worth utilities are stabilized with smaller sample sizes, consistently improving accuracy (Sawtooth Software, 2021).

ACBC also enables the inclusion of a much greater number of attributes (up to 100) and levels (up to 250 per attribute). For the present study, this is a requirement because of the rather large number of attributes and levels identified. In addition, ACBC is found to be more engaging and less repetitive and thus of greater relevance to respondents, allowing the estimation of part-worths at the individual level and enabling researchers to detect both non-compensatory and compensatory decision processes (Sawtooth Software, 2014).

The sample process flow of an ACBC is illustrated in Fig. 2 (Howell, 2009; Johnson, 2000). In a first step, respondents were asked to choose the one level of each attribute that they associate most strongly with an FtF meeting. Second, participants were asked to complete several screening tasks to build up their consideration sets (Fig. 3) and determine any non-compensatory rules by stating eventual 'must-haves' and

'unacceptable' elements. Based on the consideration sets, step three involved presenting choice tasks associated with three choices each.

3.2. Experimental design

Following the literature review presented in Section 2.3, two separate preliminary studies were conducted which informed the development of the hypotheses and attributes. For attribute development, we followed an iterative, constant comparative approach as recommended by Coast et al. (2012) (Fig. 4). First, we conducted a pre-survey with business customers of the same airline (N = 503), which gave us insight into travel intentions and travel decision criteria. In addition, the pre-survey provided us with qualitative feedback about the decisions of interest (Table 1). This preliminary study was supplemented with insights from 14 interviews with corporate travel managers (Böhm & Nufer, 2021) and further developed in multiple workshops with researchers and managers, leading us to the conceptualization of the independent and dependent variables that we aimed to examine with our ACBC and multivariate statistics. Finally, we ran a pre-test with the ACBC questionnaire to finalize the design and terminology.

Our DV is the choice between a physical FtF meeting and a virtual meeting (irrespective of the specific platform which is used). The preliminary independent variables in our model (Fig. 5) are the factors derived from the literature that influence the choice between FtF and a virtual meeting. The quotas were created to reduce the complexity of the category "purpose of the meeting," as the evaluation of the pre-study and interviews showed that the diverse reasons for meetings can be better mapped if management-specific tasks are distinguished from project-related tasks. We opted to not incorporate manual labor and conferences/conventions into the ACBC. Although they are important drivers of business travel, our sample was more suited to the management context.

Based on the literature review and our pre-studies, we proposed an initial conceptual model of the relevant variables for the decision between FtF and VC (Fig. 5). The model forms the basis for empirical testing, yet the focus was still explorative for the purpose of model development, not the verification of specific causality. In our model, we identified two main groups of influencing factors: *meeting characteristics* on the left, and *participant characteristics* on the right. The meeting characteristics consist of the grouped attributes from the ACBC experiment. Participant characteristics, in our thinking, consist of norms and attitudes (personal and social) and experience.

To evaluate the hypotheses relating to the meeting characteristics in the ACBC setting, we did not seek to falsify conventional null hypotheses, but instead considered the utility values of the HB model. The main hypothesis is related to the superordinate attribute, and is not tested itself but evaluated based on the attribute-level-related sub-hypotheses. In our design, a high utility value means that FtF contact is preferred, and a low (or negative) utility value means that the virtual option is preferred for a specific attribute level. Thus, to test the main hypotheses we needed to formulate a set of more specific sub-hypotheses which were derived from literature and our pre-studies and which directly refer to the specific attribute level in question. Table 2 shows the attributes and levels that were used in the ACBC. The sub-hypotheses that were analyzed based on the ACBC utility values are presented in section 2.3. This section also shows the sub-hypotheses we tested using multivariate statistics using additional questions in a seven-point Likert format, shown to participants after completing the ACBC section.

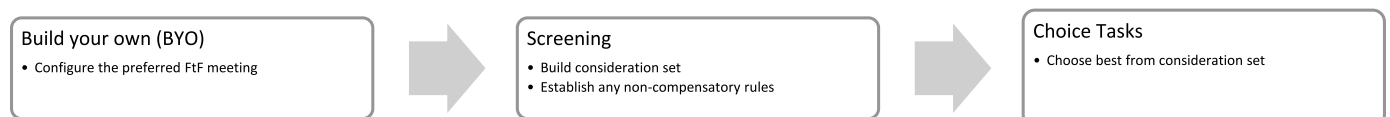


Fig. 2. Survey flow in ACBC

Here are some potential meetings you might be confronted with. Each column represents a meeting.

Do any of the meetings look like they **should be held face-to-face (FtF)**? Please indicate for each meeting whether holding it face-to-face is preferable or not.

Again, please answer the questions honestly and intuitively. Don't overthink - there are no right or wrong answers.

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Purpose of the meeting	Presentation / Pitch	Negotiation	Presentation / Pitch	Presentation / Pitch
Character of the message to be communicated	informal & low complexity message	informal & low complexity message	formal & low complexity message	informal & low complexity message
Regularity of the meeting	recurring but not regularly	one-time	one-time	one-time
Relation between the meeting participants	Intra-firm (same company)	External stakeholders (Governments, professional body relations)	Intra-firm (same company)	Intra-firm (same company)
Duration of relationship between participants	long relationship length (many previous contacts, trust is established)	new relationship (no previous contact - no trust established)	new relationship (no previous contact - no trust established)	medium relationship length (some previous contacts, trust is partly established)
Number of participants	2 (1-to-1)	2 (1-to-1)	2 (1-to-1)	6-10
Location of the meeting	North America	Africa	North America	North America
	<input type="radio"/> Preferably FtF <input type="radio"/> Doesn't matter	<input type="radio"/> Preferably FtF <input type="radio"/> Doesn't matter	<input type="radio"/> Preferably FtF <input type="radio"/> Doesn't matter	<input type="radio"/> Preferably FtF <input type="radio"/> Doesn't matter

Fig. 3. Screening tasks in the choice experiment.

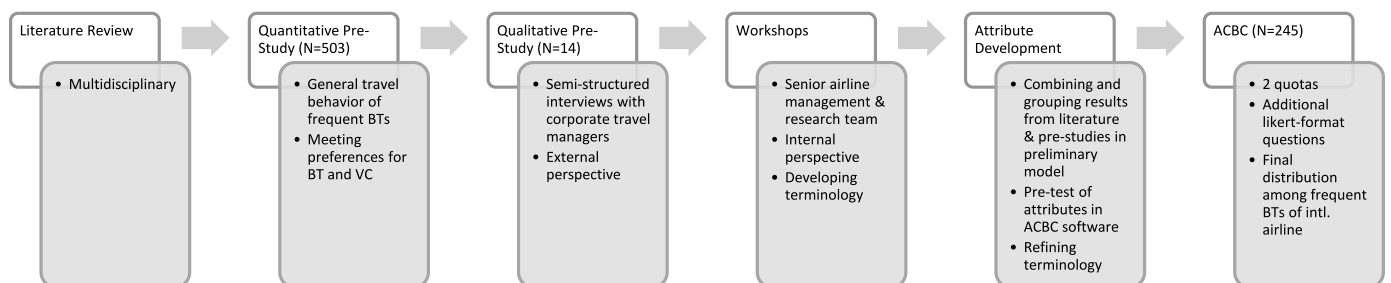


Fig. 4. Experimental design & attribute development process (based on Coast et al., 2012).

Table 1
Meetings that should be face-to-face; data from pre-study interviews.

Statement/Category	% of codings	% of answers containing statement
Personnel development	7.9%	15.6%
Meeting customers/clients	7.1%	14%
Strategy meetings	6.9%	13.7%
Negotiations	6.3%	12.1%
Creative exchange/ Workshops	6.3%	12.1%
Training/Seminars	5.7%	11.5%
Initial contact	5.2%	10.2%
Sales	4.4%	8.9%
All meetings	3.9%	8%
Informal exchange	3.6%	7.3%
Difficult/complex topics	3.5%	7%

3.3. Sample & data collection

Data was collected in cooperation with the corporate travel customers of an international airline group in the period from May to June 2021. Of 430 business travelers who accessed the survey, N = 245 business customers agreed to participate in the decision experiment following the airline’s invitation and completed the same in full. Based on two screening questions, participants were allocated to either the ‘management’ or ‘project’ quota; if both criteria were met, the allocation was randomized. This resulted in two equally sized groups of N = 123 (management) and N = 122 (project) for the ACBC experiment. The sample sizes are large enough for all ACBC analyses (Brand & Baier, 2020; Chapman et al., 2009); furthermore, the response rates are above average in relation to comparable experiments. Participants who completed at least the ACBC experiment and then dropped out were retained in the sample for evaluation, while participants who did not complete the choice experiment were excluded. The demographic structure of our sample is shown in Table 3 and the response funnel in Fig. 6. We further note that the sample characteristics represent the business travel segment well.

In addition to the basic demographics, it is important to outline some special features of the sample. Our business travel sample includes many frequent flyers; the mean number of corporate flights per year before the pandemic was 25.5 (short-haul) and 7.7 (long-haul); and air travel was reported to be the preferred mode of business travel by the vast majority. Moreover, a majority of the members of our sample are decision-making representatives from top- but also middle management (Table 3).

Respondents’ attitude towards business travel is also very positive. For a cumulative majority, business travel is pleasant (81%), important (86.3%), ordinary (69.5%), and overall good (76.6%). For 43.5% it is even relaxing to travel for work. This essentially matches the results for the stated preference outcomes (FtF or virtual) for different categories of meetings. While a quarter of the participants have no clear preference in terms of meeting type for project work (40.2% FtF) or management (40.1% FtF), the preference associated with negotiations (84% FtF) and events, seminars & conventions (76% FtF) is clearly for face-to-face meetings, which consequently require travel. The majority of respondents also stated that in their industry or position business travel is necessary, and therefore the norm.

4. Results & discussion

4.1. Analysis of counts from BYO and winning concept

First, we analyzed the counts – i.e., the number of times participants selected an attribute level in the BYO section, and a summary of the number of times that an attribute level was part of the ‘winning concept’ after the choice tournament. Table 4 shows the composition of the meetings that most participants would want to conduct in person.

It is noticeable that there are few differences between BYO and the winning concept within groups or between the two groups. In the project group, for example, “workshop/brainstorming/creative work” was the most frequently mentioned level in the BYO, but the later experiment results were similar for the management group, so negotiations are most likely to be carried out FtF in both quotas. In both groups, the attribute “Duration of relationship” changed – at first, both cohorts in the BYO

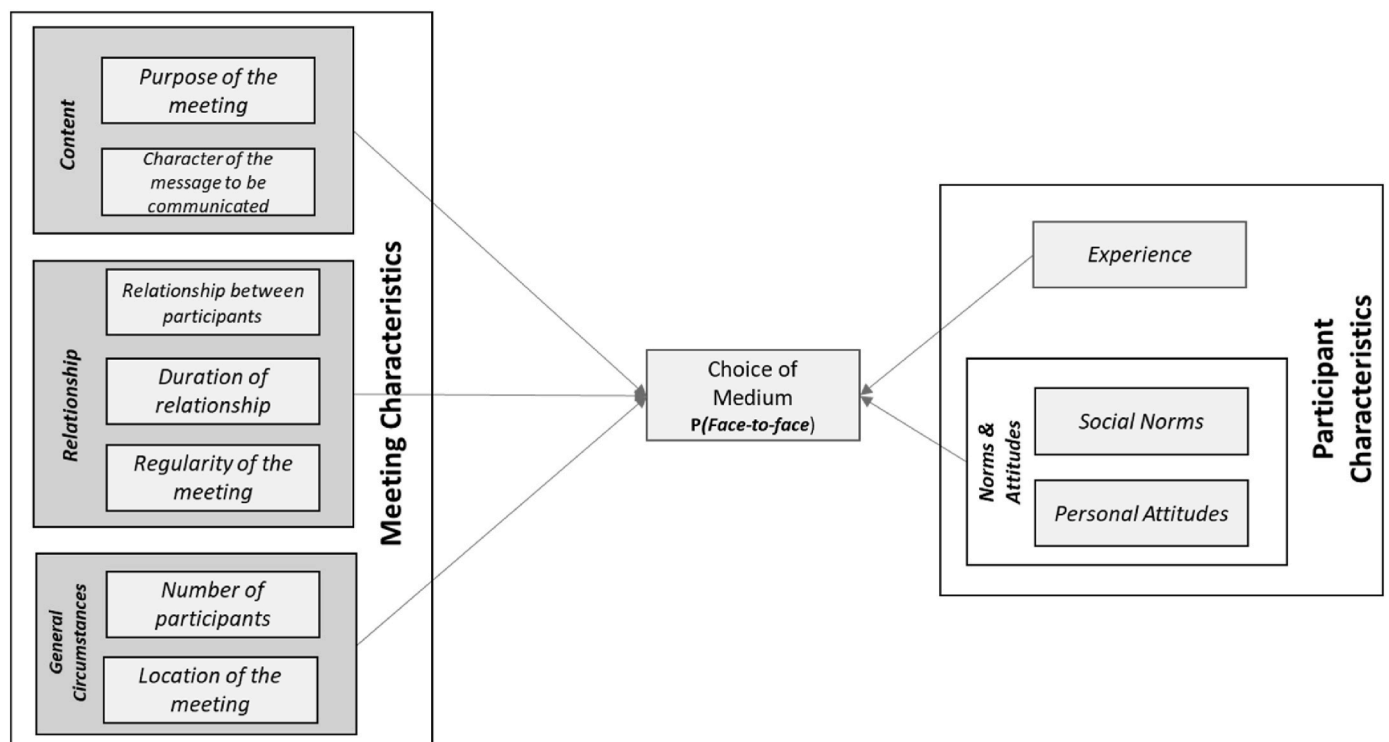


Fig. 5. Conceptual model of the choice between FtF and virtual meetings.

Table 2
Meeting Characteristics: Attributes and attribute levels used in the ACBC experiment.

Attribute Group	Attribute	Description	Attribute Levels (Project)	Attribute Levels (Management)	Hypothesis
Content	Purpose of the meeting	Main reason why meeting is being conducted.	Presentation/Pitch Negotiation Sales/Product demonstration Information exchange/ Technical Exchange Workshop/Brainstorming/ Creative Work Milestone: Planning, Kick-off, Stage-Gate, Closing	Strategy Development Negotiation Human Resource Matters Exercise of control Coaching Representing Planning	H1.1-H1.3
	Character of the message to be communicated	Degree of formality and complexity of the message that will be communicated in the meeting.	informal, low complexity informal, high complexity formal, low complexity formal, high complexity		H1.4
Relationship	Regularity of the meeting	How often this particular meeting is repeated.	one-time recurring but not regularly repeating regularly		H2.2
	Relationship between meeting participants	How meeting participants are formally related.	Intra-firm Inter-firm (client, supplier, etc.) External stakeholders (governments, professional body relations)		H2.1
	Duration of relationship between participants	How long the meeting participants have known each other and how much trust they have been able to establish.	new relationship (no trust established) short relationship length (trust is being established) medium relationship length (trust is partly established) long relationship length (trust is established)		H2.3
General Circumstances	Number of participants	How many people will take part in the meeting	2 (1-1) 3-5 6-10 More than 10		H3.1
	Location of meeting	Where the meeting takes place.	North America Latin America Western Europe Central and Eastern Europe Africa Middle East Asia (incl. Oceania)		H3.2

Table 3
Demographic data of ACBC sample.

Variable	Value	Percentage (Absolute)
Gender (N = 174)	Female	22.5% (39)
	Male	76.9% (134)
	other/no answer	0.5% (1)
Age (N = 174)	18-29	3.3% (6)
	30-49	43.1% (75)
	50-64	45.3% (79)
	65-99	8.3% (14)
Company Type (N = 174)	Locally active SME	4.4% (8)
	Internationally active SME	50% (87)
	Large Swiss company (main domicile in CH)	17.6% (31)
	Large foreign company (branch in CH)	17.6% (31)
	Public institution	1.6% (3)
	other/no answer	8.8% (15)
	Entrepreneur, Director, Top Management, Chief public official	47.8% (83)
Position (N = 174)	Self-employed person in trade, commerce, craft	4.4% (8)
	Independent profession (doctor, lawyer, artist, etc.)	7.7% (13)
	Senior staff/official, middle management	24.2% (42)
	Employee/Civil Servant	9.3% (16)
	Worker/Skilled Worker	2.2% (4)
	Military service/Professional military	0.5% (1)
	None of the above/no answer	3.8% (7)

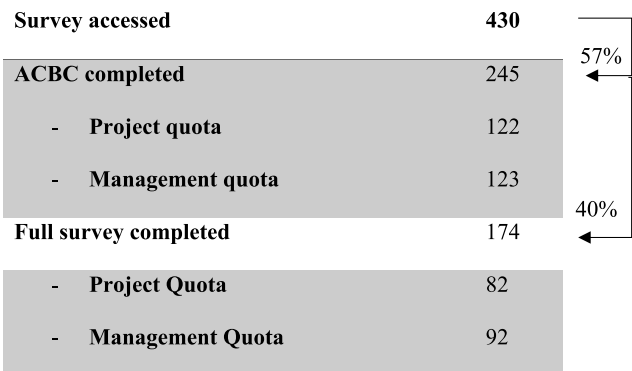


Fig. 6. Response funnel of ACBC.

stated that FtF contact was preferred in medium-length relationships, but at the end of the experiment it became apparent that FtF meetings were preferred with new relationships. There was also a change in both groups concerning “Location”, as both groups initially defined Western Europe as the most frequent location for FtF meetings, but from the experiment it became apparent that meetings in Asia are most preferably FtF. Only a few participants chose certain attribute levels as “must-haves” which require an FtF meeting, with the respective percentages being too small for drawing any conclusions. Those levels that were marked as unacceptable for an FtF meeting are shown in Table 7.

Table 4
Attribute levels that are most appropriate for an FtF meeting based on BYO counts and winning concept.

Attribute	Attribute Level Project (N = 122)		Attribute Level Management (N = 123)	
	BYO	Winning Concept	BYO	Winning Concept
Purpose of meeting ^a	Workshop/Braintstorming/Creative Work	Negotiation	Negotiation	Negotiation
Character of message to be communicated	formal, high complexity	formal, high complexity	formal, high complexity	formal, high complexity
Regularity of meeting	one-time	one-time	one-time	one-time
Relation between meeting participants	inter-firm (client, supplier, etc.)	inter-firm (client, supplier, etc.)	inter-firm (client, supplier, etc.)	inter-firm (client, supplier, etc.)
Duration of relationship between participants	medium relationship length (trust is partly established)	new relationship (no trust established)	medium relationship length (trust is partly established)	new relationship (no trust established)
Number of participants	3–5	6–10	3–5	3–5
Location of the meeting	Western Europe	Asia	Western Europe	Western Europe/Asia

^a Different attribute levels.

4.2. Part-worth utilities and average importances

We analyzed the ACBC data with a hierarchical Bayes (HB) model in Sawtooth software. The HB model provides an upper (group) and lower (individual) level for estimating the part-worth utilities. The individual choices at the upper level were consistent with a single multivariate normal distribution. In more detail, the HB model complements the fragmented individual data with data from individuals with similar choices. In contrast, the lower-level data describes the choice probabilities of individuals on the basis of a multinomial logit model (Allenby, Bakken, & Rossi, 2004; Johnson, 2000). As expected, in both groups the purpose of the meeting had the highest average importance, meaning this attribute has the strongest influence on opting for an FtF meeting (Table 5). The ranking of average importances varies between the groups. While in the project group the character of the message was the second most important attribute, in the management group it was the location of the meeting. A Mann-Whitney U Test (*p < 0.01/**p < 0.001) confirmed that the average importances for the project and management quota differed significantly, supporting our decision to use different quotas in the ACBC experiment.

Table 6 gives an overview of the attribute levels with the highest and lowest utility values in both groups, indicating the most important drivers of FtF and VC preferences among all attributes. What is striking is the large standard deviations, which indicate the strong heterogeneity of respondents and are very normal in HB regressions in ACBC studies. Table 7 shows the complete results of the HB model; i.e., the estimated average utility values with the corresponding SD values as well as the lower and upper 95% confidence intervals. To make it easier to compare the results, the utility estimates were converted to a sum of zero within the attributes. As this is interval data, utility comparisons were only

Table 5
Average importance scores and standard deviation of attributes.

Attribute	Project (N = 122)		Management (N = 123)	
	Average Importances	Standard Deviation	Average Importances	Standard Deviation
Purpose of meeting ^b	21.29	6.04	20.18	4.46
Character of message to be communicated	16.96	5.05	16.51	5.12
Regularity of meeting	10.02*	4.13	11.53*	4.71
Relation between meeting participants	12.19	4.97	11.64	4.82
Duration of relationship between participants	10.31 ^a	4.41	12.62 ^a	5.53
Number of participants	14.09 ^a	6.82	10.32 ^a	4.69
Location of meeting	15.13*	6.39	17.19*	6.29

* p < 0.01.

^a p < 0.001.

^b Attribute levels not identical.

possible within attributes. The ‘unacceptable’ level indicates how often participants marked an attribute as unacceptable in the screening part of the experiment following a non-compensatory rule.

Looking at the attribute levels and proportion of unacceptable levels in detail, for project managers, meetings for the purpose of information exchange, involving informal and low-complexity messages, in pairs, and intra-company and presentations/pitches are those most likely not to require business trips. The main reasons for FtF meetings are negotiations, meetings involving formal and informal high complexity messages, workshops and creative work, one-off meetings, and meetings with external stakeholders (e.g., governments, or representatives of professional bodies). General managers refrain from FtF contact for HR matters, informal and formal low-complexity messages, frequent repetitive appointments, coaching of employees, and long relationships. They prefer personal contact for negotiations, formal & informal high complexity messages, strategy development, one-off meetings, and appointments in Asia.

We see in these results supporting evidence for the theoretical assumption we discuss at the beginning of the paper: that a large part of the demand for business travel is externally determined, and it is especially those attribute levels that show high utility values for FtF which are strongly externally determined (e.g., involving negotiations, external stakeholders, and Asia). Meetings that can be more easily substituted by VC are those over which individuals feel they have greater internal control (e.g., internal, coaching, or HR matters).

As can be seen in Fig. 7, in line with findings from Lu and Peeta (2009), negotiation is the attribute level with the highest utility score in both groups and is associated with the clearest result in the stated preference section. This is not surprising, as negotiations are often complex, uncertain, depend on personal relationships between participants, and often involve external stakeholders (Salt, 2010) – elements which are all found to contribute utility to FtF meetings in our analysis. This leads us to accept H1.1 with a high degree of certainty. The same is true of H1.3, which we accept based on the high utility value awarded by the management group.

Surprisingly, however, we must reject H1.2. While (based on the literature and the pre-studies) we assumed that HR matters would yield a high utility value, in the management group the attribute level had the lowest utility value of all. Further investigations are needed here, as it is not clear what the cause of this is. Perhaps the terminology we employed was misleading, or general managers do not see HR matters as their responsibility but that of the human resources department.

Results about the formality of the message to be communicated are interesting. We assumed that informal messages would preferably be communicated FtF irrespective of the complexity of the message. However, in both groups we find that it is not the formality but the complexity of the message that is the relevant factor for avoiding VC. In part, this contradicts the conclusions of Denstadli et al. (2012) that

Table 6
Attribute levels with highest and lowest utilities.

	Project (N = 122)			Management (N = 123)		
Highest Utilities	Average Utilities (Zero-Centered Diffs)	Average Utilities	Standard Deviation	Average Utilities (Zero-Centered Diffs)	Average Utilities	Standard Deviation
	Negotiation	57.33	38.84	Negotiation	62.03	28.13
	Formal & high complexity message	48.31	33.68	Formal & high complexity message	44.21	29.23
	Workshop/Brainstorming/Creative Work	35.14	41.06	Informal & high complexity message	34.65	32.22
	Informal & high complexity message	28.65	33.36	Strategy development	33.65	37.14
	One-time	22.01	28.53	One-time	30.38	27.57
	External stakeholders (governments, representatives of professional bodies)	20.24	33.18	Asia (incl. Oceania)	24.71	40.57
Lowest Utilities	Formal & low complexity message	-34.90	22.87	Long relationship length (many previous contacts, trust is established)	-30.11	37.87
	Presentation/Pitch	-35.21	34.98	Coaching	-31.19	29.95
	Intra-firm (same company)	-38.22	25.58	Formal & low complexity message	-35.31	22.42
	2 (1-to-1)	-41.62	41.73	Repeating regularly	-38.00	22.20
	Informal & low complexity message	-42.06	28.60	Informal & low complexity message	-43.55	24.26
	Information exchange/Technical Exchange	-43.83	47.55	Human resource matters	-45.33	31.57

informal exchange is primarily possible through face-to-face contact. It seems that after COVID-19 businesspeople are sufficiently familiar with the relevant technology that informal conversations via VC are also conceivable, as channel expansion theory (Carlson & Zmud, 1999) would predict. We interpret this to mean that for informal ‘small talk’ the virtual option suffices, but for informal ‘thick’ and multi-layered ‘business talk,’ such as alliance building or conflict resolution, physical preference is needed (Urry, 2002, 2003). Overall, we are confident we have found ample evidence that *content*, involving the two attributes *purpose* and *character of the message*, belongs in our conceptual model as a determining factor with the highest average utility score.

The *relationship* attributes significantly differ between the groups and are awarded the lowest utility values in the project group. However, our hypotheses were all accepted. We found strong evidence that in the future especially internal meetings may be conducted virtually (H2.1), confirming previous findings of Lu and Peeta (2009) and Haynes (2010). We know that in our population roughly one-third of all business travel is due to internal meetings; this may be an important explanation of the projected decline in business travel in the range of 20–30% (Müller & Wittmer, 2021; Pearson, Patel, & Wilkes, 2021). This is a particularly important shift for large MNCs, which may need to change their focus on corporate travel management to meeting management, as suggested previously by Gustafson (2012a). In doing so, post-COVID company travel policies are liable to be seen as a potential source of cost savings and climate action. However, it remains unclear what this substitution of internal meetings means for internal relationship building and maintenance. We see fewer internal meetings less as a threat to cognitive trust in processes and organizations but rather as a challenge to affective trust, which according to Growe (2019) concerns creating positive emotions and a good working atmosphere. We also accept H2.3 – that the longer a business relationship has existed, the more likely it is that meetings will be held virtually. On the one hand, this can be explained by the building of trust (Johnston, 2014; Urry, 2003). On the other hand, this is also supported by the fact that, even if a tendency towards FtF can be observed for external meetings, meetings with business partners in business relationships seldom go beyond pure business matters. Participants act primarily for practical reasons and less for the pleasure of being together, the former which can be managed virtually (Unger, Fuchs, & Uriely, 2020). Only for H2.2 did we not find a clear tendency regarding recurring but not regular meetings. It appears that for irregular meetings it is important from time to time to be present in person, supporting previous findings that complete substitution is unlikely. In sum, we identify enough reasons to believe that the relationship is a relevant factor and belongs in the conceptual model.

General circumstances, the remaining group of attributes of meeting characteristics, also remains in the model, although we found significant differences between the groups for both attributes. We accept H3.2 as we

found clear differences in meeting preferences depending on the *location of the meeting*. Meetings in Western Europe and Asia are most liable to be held FtF. In the case of Asia, we interpret the preference for FtF as culturally induced, consistent with Strengers (2015) claim that in certain cultures FtF communication is commonly associated with demonstrations of respect. For Western Europe, the shorter distances or legacy of FtF meetings are potential explanations. What is surprising is the trend toward VC in North America. Based on findings by Köhler et al. (2012) about the preference of Americans for informal, unstructured, and intuitive meetings, one would have expected a weaker preference for the use of VC reflected in the choice. Another interesting issue is raised by Shin, Nicolau, Kang, Sharma, and Lee (2022). Since active COVID-19 cases and measures were still present in many countries at the time of data collection, destination trust may have implicitly played a role in the assessment. Business travelers also need to feel safe to travel internationally. However, not being able to check whether respondents maintain business relationships in the respective regions, we are unable to provide a more precise assessment.

We do not accept H3.1 as the utility curve is not linear but has a clear utility spike at between 2 and 3–5 participants before utility decreases again as the *number of participants* continues to increase. For one-to-one meetings, VC seems to be easy and convenient for both groups. For the other attribute levels, the project group always scores higher mean utilities, which may indicate that on the project level aspects such as generating trust, forging social contacts, and developing networks are important reasons for preferring FtF for meetings with more participants (Bathelt & Turi, 2011; Millar & Salt, 2007).

4.3. Multivariate statistics

For the factor *experience*, within the participant characteristics group we do not find enough evidence from our ACBC to confirm hypothesis H4.1 (‘the more virtual, the more real’). We are unable to identify a significant correlation between the number of business trips and the number of videoconferences before the pandemic. For the second experience hypothesis we also lack clear supporting evidence. Only the stated preference results for management tasks show a weak but significant negative correlation ($\rho = -0.221^{**}p < 0.01$) with the number of VC before COVID-19, indicating support for H4.2. The direction of the other correlations is as expected, but the correlation effects are not significant. Hence, our results for ‘experience’ are mixed so we cannot accept or reject the hypotheses. We believe that further investigation of the role of personal experience with VC and its influence on business travel decisions is necessary, and therefore recommend removing the factor from the model.

We found that the last element in the model, *norms & attitudes*, is to some extent relevant and deserves to remain in the model. While the

Table 7
Zero-centered utilities, standard deviations, and lower and upper 95% confidence interval (hierarchical Bayes model).

Number of respondents (N = 245)		HB Model Project Management Group (N = 122)				HB Model General Management Group (N = 123)			
Attribute	Attribute Levels	Zero-centered utilities	Lower and upper 95% CI	Standard Deviation	Unacceptable level in %	Zero-centered utilities	Lower and upper 95% CI	Standard Deviation	Unacceptable level in %
Purpose of meeting	Presentation/Pitch	-35.21	[-41.41: 29.00]	34.98	5.74	.	.	.	.
	Negotiation	57.33	[50.44:64.22]	38.84	1.64	62.03	[57.06:67.00]	28.13	2.44
	Sales/Product demonstration	8.24	[2.56:13.92]	32.01	2.46	.	.	.	.
	Information exchange/Technical Exchange	-43.83	[-52.27: 35.39]	47.55	10.66	.	.	.	.
	Workshop/ Brainstorming/ Creative Work	35.14	[27.85:42.43]	41.06	2.46	.	.	.	.
	Milestone: Planning, Kick-off, Stage-Gate, Closing	-21.68	[-27.49: 15.87]	32.74	6.56	.	.	.	.
	Strategy development	.	.	.	.	33.65	[27.08:40.21]	37.14	0.81
	Human resource matters	.	.	.	.	-45.33	[-50.91: 39.75]	31.57	4.88
	Exercise of control	.	.	.	.	-1.57	[-6.46:3.31]	27.65	0.81
	Coaching	.	.	.	.	-31.19	[-36.49: 25.90]	29.95	4.07
Character of message to be communicated	Representing	.	.	.	.	7.48	[1.62:13.34]	33.16	2.44
	Planning	.	.	.	.	-25.06	[-31.59: 18.54]	36.92	6.5
Regularity of meeting	informal & low complexity message	-42.06	[-47.13: 36.98]	28.60	15.57	-43.55	[-47.84: 39.26]	24.26	8.13
	informal & high complexity message	28.65	[22.73:34.57]	33.36	1.64	34.65	[28.95:40.34]	32.22	1.63
	formal & low complexity message	-34.90	[-38.96: 30.84]	22.87	4.92	-35.31	[-39.27: 31.34]	22.42	7.32
	formal & high complexity message	48.31	[42.33:54.28]	33.68	4.92	44.21	[39.04:49.38]	29.23	0
Relation between meeting participants	one-time	22.01	[16.95:27.07]	28.53	1.64	30.38	[25.51:35.25]	27.57	0
	recurring but not regularly repeating regularly	3.58	[-0.58:7.74]	23.44	0.82	7.62	[4.10:11.14]	19.91	1.63
Duration of relationship between participants	repeating regularly	-25.59	[-29.98: 21.20]	24.73	7.38	-38.00	[-41.92: 34.08]	22.20	6.5
	Intra-firm (same company)	-38.22	[-42.76: 33.68]	25.58	5.74	-24.02	[-29.97: 18.08]	33.63	6.5
	Inter-firm (client, supplier, etc.)	17.99	[13.22:22.75]	26.86	3.28	19.63	[14.26:25.01]	30.42	3.25
Number of participants	External stakeholders (governments, representatives of professional bodies)	20.24	[14.35:26.12]	33.18	0.82	4.39	[-1.72:10.51]	34.60	1.63
	new relationship (no previous contact - no trust established)	19.21	[13.67:24.75]	31.20	0	18.75	[11.58:25.91]	40.53	0.81
	medium relationship length (some previous contacts, trust is partly established)	6.04	[1.90:10.18]	23.31	1.64	11.36	[7.29:15.44]	23.06	1.63
Location of meeting	long relationship length (many previous contacts, trust is established)	-25.25	[-30.04: 20.46]	26.99	3.28	-30.11	[-36.80: 23.41]	37.87	5.69
	2 (1-to-1)	-41.62	[-49.02: 34.21]	41.73	5.74	-18.19	[-23.82: 12.57]	31.85	1.63
	3-5	14.08	[9.62:18.54]	25.13	2.46	13.90	[9.04:18.76]	27.52	0.81
	6-10	15.50	[10.27:20.73]	29.48	2.46	5.12	[0.40:9.84]	26.72	0
Location of meeting	more than 10	12.04	[5.24:18.84]	38.30	3.28	-0.82	[-5.69:4.04]	27.52	4.88
	North America	-1.22	[-5.89:3.46]	26.35	0.82	-16.49	[-23.00: 9.97]	36.86	2.44
	Latin America	-20.39	[-25.35: 15.44]	27.93	1.64	-11.37	[-16.31: 6.42]	27.97	5.69
Location of meeting	Western Europe	17.00	[10.98:23.03]	33.94	0	20.58	[12.22:28.93]	47.29	2.44
	Central and Eastern Europe	8.13	[0.41:15.85]	43.51	0	11.32	[1.94:20.71]	53.12	1.63

(continued on next page)

Table 7 (continued)

Number of respondents (N = 245)		HB Model Project Management Group (N = 122)				HB Model General Management Group (N = 123)			
Attribute	Attribute Levels	Zero-centered utilities	Lower and upper 95% CI	Standard Deviation	Unacceptable level in %	Zero-centered utilities	Lower and upper 95% CI	Standard Deviation	Unacceptable level in %
Africa		-22.30	[-29.06: 15.53]	38.12	1.64	-17.39	[-22.88: 11.90]	31.07	6.5
The Middle East		3.55	[-0.56:7.67]	23.18	0	-11.37	[-16.73: 6.01]	30.32	1.63
Asia (incl. Oceania)		15.22	[8.49:21.94]	37.92	0.82	24.71	[17.55:31.88]	40.57	3.25

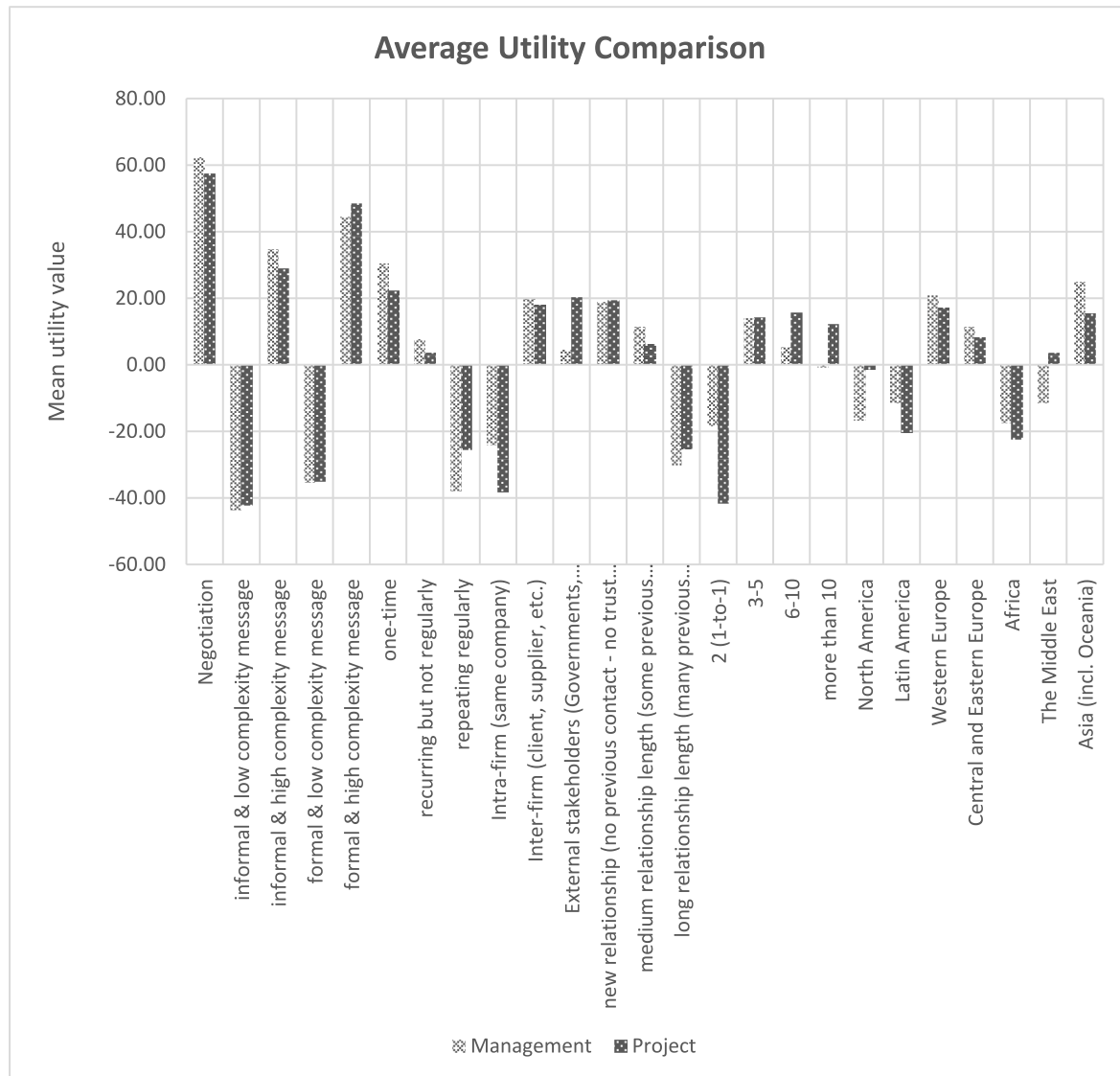


Fig. 7. Average utility comparison.

social norms hypotheses do not allow us to make unambiguous statements, personal norms and attitudes are more likely to be reasons for FtF meetings. H5.1 needs further investigation as our sample does not allow for meaningful comparison of the different sectors. As we found clear differences between different industries in terms of the mean utility values of different attributes in both groups, we have reason to believe that industry norms are relevant influencing factors, as proposed by [Grove \(2019\)](#), [Haynes \(2010\)](#), and [Storper and Venables \(2004\)](#). We reject H5.2 as we found differences between the average importances of the attributes, but no significant differences between the quotas with regard to the stated preferences. An independent samples *t*-test suggests

H5.3 can only be accepted for negotiations: respondents in a management role have a significantly stronger preference ($p < 0.001$) for conducting negotiations FtF, while the means of the other stated preference categories are not systematically different between groups. Several weak but significant positive spearman correlations are found between the different elements of the attitude construct toward business travel and the stated preferences for meeting type, partially supporting H6.1. Causation, however, would need to be tested specifically. Moreover, we found weak-to-medium significant spearman correlations between the stated preferences for all types of meetings and attitudes toward VC (Project: $\rho = -0.353^{**}p < 0.01$; Management: $\rho = -0.348^{**}p < 0.01$),

which supports H6.2. The more positive the attitude toward VC, the more often participants choose the virtual option.

In comparison with the initial conceptual model, it is primarily noticeable that we did not find enough evidence for the influence of experience, and suggest removing this element. Regarding meeting characteristics, however, we found enough evidence to indicate leaving all attributes – *content, relationship, and general circumstances* – in the model. This forms the intellectual basis for our further investigations. We assume that the characteristics of a meeting, in combination with the context of personal and social norms, influence whether a meeting is FtF or virtual. The next step would be to investigate how such norms work; i. e., whether they form the context and indirectly influence individual attributes, or whether they have a direct effect on decisions as currently presented.

4.4. Limitations & future research

Our study is highly practically relevant because of the sample we used. While our results are fully representative of the population of frequent travelers of the international airline we analyzed, future work should test our findings with a more diverse sample to reduce potential bias. As global generalizability may hence be limited, studies in other countries – for example, those with a domestic market for long-distance business travel, stronger overall air-travel growth potential, or in another cultural area – could be interesting. It is especially the attitudes of business travelers towards the voluntary reduction in business travel due to health or environmental concerns that might differ compared to those in Central Europe. It may also be interesting for future research to focus specifically on frequent business travelers who mainly use other modes of travel – i. e., those who, for example, already travel by train or travel only occasionally since a large portion of their business travel has been substituted by VC already. As the decision between virtual and physical communication will continue to increase in importance in the future, we see a strong need for the further development of our conceptual model. Further work might also want to investigate specifically whether the relationships in the model are causal. In sum, we see the need for in-depth research into the consumer behavior of business travelers in the digital age, as there is still considerable potential for advancing theory.

We also see interesting avenues for future research about businesspersons as “travelers” in a broader sense. To begin with, there is the question of the interaction or spillover between business travel and leisure travel which has not yet been satisfactorily addressed in the literature. If after COVID-19 business travelers travel less, and instead spend more time in virtual space (even in the context of working from home), what effect will this have on their need to travel in their free time; to have new experiences; to break out of the (work) routine? If there is an inverse correlation between reducing one’s travel for work and travelling for leisure, it would be beneficial to explore if this is perhaps another form of the revenge tourism concept that emerged recently in literature (Wang & Xia, 2021; Wassler & Fan, 2021). Somewhat related to this, Dai, Wang, and Kirillova (2022) discuss how COVID-19 also creates opportunities to target potential tourists in a “dreaming about travel” (p. 3) phase, and inspire them to travel. In the case of business travel, this conceptual thought is highly interesting: if business travelers no longer experience a destination as part of their work, what impact will this have on the inspiration or intent to visit this destination in person again, or for the first time, either for leisure purposes or on a future business occasion? It is also exciting to consider whether a virtual visit to a destination in the form of a business meeting might be enough to inspire a subsequent physical visit to that destination. In both cases, visitors may find it more difficult to form an image of a destination without having a personal experience (Maghrifani, Liu, & Sneddon, 2022). More in-depth findings about this could have significant implications for the marketing of (urban) business travel destinations and for understanding the nature of the virtual competitor to

business travel.

5. Conclusions & managerial implications

The need for stakeholders to understand how businesspeople choose between business travel and videoconferencing has become urgent, especially since the COVID-19 pandemic. However, the tourism literature lacks adequate treatment of the changed decision-making situation of business travelers, especially considering the increase in the availability of virtual alternatives to travel. We contribute to filling this gap by first conceptualizing the former decision situation and then locating the choice between VC and FtF in a sequential process. In contrast to the decision-making of leisure travelers, we illustrate that it is not classical motivational processes that drive travel intentions in the business case, but the largely externally influenced need for business communication. We therefore claim that the behavior of business travelers requires idiosyncratic explanation. We find the downstream decisions of business travelers to be influenced by individual, organizational, and structural factors. However, the main contribution of this paper lies in its extensive exploration of the fundamental choice between virtual communication and physical business travel at the first stage of the decision process.

Our first use of an adaptive choice-based conjoint analysis in this context aims to make a valuable contribution to the literature. Based on our empirical findings, we conclude that, even after the COVID-19 pandemic, virtual communication will not completely displace business travel. The findings of Roy and Filiatrault (1998) and Denstadli (2004) that there is only a limited substitution effect between FtF and VC appear to hold true even after the pandemic-related shock. Nevertheless, we not only show that the predicted declines in business travel volume of 20–30% (Müller & Wittmer, 2021; Pearson et al., 2021) are realistic, but also provide explanations as to why and where the reductions will take place, and when business travel will continue to be the first choice for personal exchange. We identify in particular negotiations, complex and formal messages, and creative activities as drivers of physical presence, whereas technical exchanges, and informal and less complex messages may be delivered in a virtual setting. Naturally, these changes in the decision-making behavior of business travelers have far-reaching consequences for different actors in the international tourism system, and thus also for the system as a whole.

First, our findings have implications for suppliers in the business travel industry. Especially airlines, but also hospitality providers will have to come to terms with the fact that there will be a decline in the pre-crisis volume of travelers in a particularly important segment. Moreover, a one-size-fits-all marketing and sales approach is no longer sufficient to serve the business customer segment. Our ACBC shows differences in the decision-making behavior of business travelers at the project and general management level. We also have strong evidence that geographic context and culture, as well as industry and job profile, drive different decisions. Hence, business travel suppliers need to know more about their corporate travel customers. For researchers and practitioners alike, the question raised by Vogt (2011) whether they “are participating enough in industry CRM-based market research to transform consumer behavior research into more holistic consumer profiles” (p. 356) remains relevant a decade later. For airlines, this means, for example, that for corporate customers with centrally organized corporate travel management, closer cooperation with the latter is advisable. For business travelers who use an individual, decentralized booking process, transport providers should consider the increasing the complexity of the decision by providing additional support throughout the process to enable the business traveler to make the best decision depending on the situation. Ideally, this can increase perceived service value and, if necessary, eliminate a travel agent as part of a premium strategy. Holma, Bask, and Kauppi (2015) also highlight in their work the importance of service quality in the relationship between customers and business travel providers. We can only emphasize these findings after our study. Corporate travel agents will also have to rethink their role from trip

planning to meeting planning, in close cooperation with suppliers and customers, as also suggested by Gustafson (2012a).

Second, on the supplier side we would like to highlight the consequences for business travel destinations. Naturally, weekday city overnight stays in highly frequented urban business travel destinations are likely to be hit by a shift in business travel to the virtual space. Compared to the perceptible decline in the number of leisure travelers, as described by da Silva Lopes, Remoaldo, Ribeiro, and Martín-Vide (2021) using the example of Porto, the potential absence of business travelers elsewhere in urban destinations (e.g., public spaces and transport) might be less noticeable. Although we consider “bleisure” (Lichy & McLeay, 2018) to be a relevant phenomenon, Unger et al. (2020) stress that the destination experience of business travelers is mainly characterized by long and intensive meetings and not by recreational and touristic activities. Moreover, business travel is often particularly concentrated in so-called world cities, which are important hubs for tourism, but the main economic motive of participants of the latter is not tourism (Ashworth & Page, 2011). The decrease in individual business travelers is therefore almost certainly less significant. However, an important indicator of this concentration is also the greater propensity of exhibition and conference organizers to visit world cities for their tourist appeal, vibrant cultural industries, and cultural heritage (Ashworth & Page, 2011). Recent developments show that after the easing of COVID-19 measures there was significant pent-up demand from MICE organizers, but also on the demand side, and large conferences with tens of thousands of participants have taken place again. Although not the focus of our study, our data show that most business travelers will continue to attend MICE events in person rather than virtually. This is positive for the business travel sector, as the permanent disappearance of these mega-events would have had much worse consequences than a partial reduction of individual business travel. However, competition is likely to increase, so the call for urban destinations by Paskaleva-Shapira (2007) to position themselves more positively and competitively in the market is becoming all the more relevant.

Third, the shift will also have an impact on the customer – companies. In the medium term, companies will have to introduce more specific corporate policies regarding business travel, as we reveal that the co-existence of physical and virtual communication will remain the new norm. We advocate for “the best of both worlds” policies based on situational usefulness that prioritizes the benefits of each form of communication. In concrete terms, this means that policies must consider both the need to travel and a preference for the virtual. However, to reduce the increased complexity for the corporate traveler, policies may provide guidance. This also creates opportunities for companies such as saving costs and reducing GHG emissions (Poom et al., 2017). For example, shifting unwanted travel for internal meetings to the virtual sphere can also help reduce family stress (Defrank et al., 2000; Ivancevich et al., 2003) and potentially contribute to employee wellbeing (Cohen, 2016; Ye & Xu, 2020, 2021) and satisfaction. In addition, reducing business travel also resonates with the environmental awareness of a significant number of business travelers, which we also found in our sample. However, challenges also arise when management is inclined to restrict employees from travelling and thus, for example, jeopardize employees’ perceived career opportunities (Higham, Hopkins, & Orchiston, 2019; Poggioli & Hoffman, 2022), challenge the self-concept of frequent travelers (Becken & Hughey, 2021; Poggioli & Hoffman, 2022), or eliminate business travel as a fringe benefit (Becken & Hughey, 2021; Roby, 2011). Establishing specific guidelines requires a profound knowledge of the situation of individuals, which in many companies could lead to the urgent need for the internal analysis of travel activities.

Ultimately, with an increasing number of companies committing to specific decarbonization targets (Dahlmann, Branicki, & Brammer, 2019), substitution offers an excellent opportunity to reduce Scope 3 emissions from travel without major ramifications, as previously proposed by Poom et al. (2017). This also represents an interesting starting

point for legislators to enact mandatory and effective climate protection measures.

We contribute to the body of knowledge by challenging preexisting approaches to explaining business traveler decision making, reconceptualizing them, and experimentally investigating the fundamental decision between VC and FtF communication. By taking a big-picture approach and proposing a holistic conceptual model based on an extensive literature review and a choice experiment with business travelers of an international airline, we not only increase theoretical understanding of the choice between face-to-face and virtual meetings in different work contexts in the wake of the COVID-19 pandemic, but also comprehensively analyze what impact this is having on the tourism industry, thus bridging an important gap between theory and practice.

Impact statement

We demonstrate that broader societal and environmental trends, accelerated by COVID-19, are changing the decision-making behavior of business travelers, and we improve understanding of the consequences of the virtual substitution of business travel. Although substitution potential is found to be limited, we find that substituting only internal travel can relatively easily reduce Scope 3 GHG emissions in companies, and improve employee health and well-being. From an economic perspective, challenges arise for typical business travel destinations and suppliers. We show that a “one-size-fits-all” approach to business travel marketing will no longer suffice. Rather, tourism providers must address business travelers in a situational and specific way. For corporate business travel management, we see the need for renewed travel policies that move from travel management to meeting management. This paper may encourage managers and policymakers to view these developments as opportunities and to actively leverage them to create positive societal and environmental change.

Credit author statement

Adrian Müller contributed to theoretical development, experimental design, data analysis, presenting results, manuscript writing, and revision. Andreas Wittmer contributed to designing the study overall, experimental design, discussion of results, and reviewing the manuscript. Both authors contributed to the final manuscript.

Declaration of competing interest

None.

Acknowledgments

This research did not benefit from receipt of any specific grant from funding agencies in the public, commercial, or not-for-profit sector. We would like to thank our contacts at the international airline for their support in developing the research questions and distributing the surveys. Further, we would like to thank our students A. B. and D. N. for their support with the qualitative data analysis.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.tourman.2022.104688>.

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